

Remarks

The Applicant thanks the Office for the careful consideration given the present application in the original Detailed Action in this case. With the foregoing amendments and the ensuing remarks, the Applicant has endeavored to respond most properly to each of the points raised by the Office to ensure that the specification and claims now presented are allowable in all respects. With this in mind, the Applicant respectfully requests that the Office review and allow the current specification and claims.

In brief summary, the present application was filed with 62 claims in total with claims 1, 33, and 47 standing independently. Claim 36 has been canceled thereby leaving claims 1-35 and 37-62 pending for consideration.

Claim Rejections - 35 U.S.C §§ 102, 103

In rejecting the claims, the Office found that claims 1-9, 26-37, 41-44, 47, 49, 50, 53-56, and 62 were rejected as unpatentable over U.S. Patent No. 6,042,487 to Schrimmer et al. in view of U.S. Patent No. 5,066,011 to Dykstra et al. Claims 10-14, 44-46, 51, and 52 were rejected as unpatentable over Schrimmer et al. and Dykstra et al. when combined with U.S. Patent Application Publication No. 2005/00055873 of Gick. Still further, claims 15-21 were rejected as unpatentable in light of the combined references of Schrimmer et al., Dykstra et al., and U.S. Patent No. 3,426,121 to Faulkner. Finally, claims 22-25, 38-40, 60, and 61 were rejected as obvious in light of Schrimmer and Dykstra et al. when combined with U.S. Patent No. 3,426,121 to Cavallaro et al. and U.S. Patent No. 4,463,951 to Kumasaka et al.

It is, of course, well settled that a proper obviousness analysis requires that one consider the entire claim as a whole and one must compare the claimed invention to the disclosures of the prior art. For each modification or combination, the prior art reference or references must render all of the claim limitations obvious. See, e.g., MPEP § 706.02(j); *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In the present case, the Applicant submits that each independent claim patentably defines over the prior art, particularly as those claims have been amended herein. Applicant further submits that each dependent claim is allowable in that it depends from an allowable base claim and in that each adds further patentable limitation thereto.

Considering in particular claim 1, the Applicant notes that it has been amended to require, among other things, that the “at least one surface deviation” is disposed “relative to the outer surface of the spherical member of the core structure” and that there is “at least one corresponding surface deviation disposed relative to the inner surface of the spherical casing in a mating relationship” With this, as claim 1 now specifies, “the at least one surface deviation and the at least one corresponding surface deviation are interposed between the spherical member of the core structure and the spherical casing”.

Schrinner does not teach or render the invention of claim 1 obvious. The “dimples 44” of Schrinner referenced by the Office are disposed only on the “shell portion 40” and, just as notably, only to the outside surface of the “shell portion 40”. To the contrary, Applicant’s claim 1 requires at least one surface deviation on an outer surface of a spherical member of a core structure and on an inner surface of a spherical casing. With this, the mating surface deviations are interposed between

the spherical member and the spherical casing. Schrimmer has no corresponding structure, and the “dimples 44” in Schrimmer teach nothing in relation to Applicant’s mating surface deviations.

Indeed, Schrimmer would more properly be read to teach away from the claimed game ball with a core structure “comprising a spherical member”. From Schrimmer, one skilled in the art would be taught to create a disk shaped “core portion 34”, not the “spherical member” core structure that is specifically claimed by Applicant. The difference is more than one merely of form. A game ball with Schrimmer’s disk shaped “core portion 34” would have markedly different performance characteristics than a game ball with Applicant’s claimed “spherical member” core structure, particularly under the high impact conditions for which Applicant’s game ball was created. Amended method claim 47 and the claims that depend therefrom are allowable based on the same arguments.

Claims 2 through 5 are allowable in that they depend from allowable base claim 1 and because each adds patentable limitation thereto, particularly as amended to define even more clearly over the cited art. More particularly, claims 2-4 now require that the at least one surface deviation disposed relative to the spherical member of the core structure “comprises a rigid registration projection”, then that the surface deviation “comprises a rigid post”, and further that there are a plurality of rigid registration projections. Still further, claim 5 requires that each registration projection comprises a “metal post”. Claim 49 also has been amended to require a rigid registration projection such that it is allowable for similar reasons.

Schrimmer would most accurately be read to teach one skilled in the art away from the claimed “rigid registration projections”. In Schrimmer, the “connectors 22, 24” are expressly and

repeatedly described as being “flexible”. Indeed, the flexibility of the “connectors 22, 24” is critical to their performance under Schrimmer’s invention to allow the “connectors 22, 24” to deflect in response to the insertion of the “plunger 36”. Just as notably, it will again be noted that Schrimmer’s core structure is not spherical as Applicant’s claims demand. As such, Schrimmer would not exhibit a need for rigid registration projections to prevent relative movement of the “core portion 34” and the “outer shell 40”.

Claim 8, which has been amended to specify further that “the light source is activated for a pre-determined time period after the impact”, is additionally patentable over even the combined references of Schrimmer and Dykstra. Since it is switched on and off by the “plunger 36”, it is clear that Schrimmer does not have an impact activated light source. Furthermore, Dykstra merely exhibits only a momentary flash of light and emission of sound. Under Dykstra, in the event of a jolt, “both the flashtube 24 and sound annunciator 26 [are] momentarily (and simultaneously) activated. The net result is that there is a short flash of light as well as a sound.” Col. 2, lines 39-42. To the contrary, claim 8 requires that the light source be activated “for a pre-determined time period *after* the impact”, which is neither taught nor rendered obvious by Schrimmer and Dykstra, even when combined. Dykstra would instead teach one skilled in the art to induce only a simultaneous, momentary light activation, which is contrary to that claimed by the Applicant.

Claims 10 through 14 also enjoy independent patentability. Pointing specifically to Paragraph 0019, the Office indicated that U.S. Patent Application Publication No. 2005/0005873 of Gick discloses means for sensing a remote activation signal including means for sensing an infrared activation signals and means for sensing sound signals. The Office further found that Gick disclosed

means for exhibiting responses to remote activation signals comprising light and sound sources. However, Gick simply has no such disclosure. The sole activation mechanisms contemplated by Gick are when “the toy moves or is subject to a sufficient vibration, a sensor detects the movement or vibration and then triggers a speaker to emit sound or triggers a light source to emit light.” Ibid. Gick never teaches or suggests remote activation of any kind and certainly does not contemplate infrared or sound activation. As such, Gick cannot properly support a rejection of claims 10 through 14, and the Office’s reconsideration of the same is requested. These arguments apply with equal force to claims 45, 46, 51, and 52.

Still further, claims 15 through 17, particularly as amended, are not anticipated or rendered obvious by even the combined references of Schrimmer, Dykstra, and Faulkner. As amended, claim 15 demands that there be a plurality of positioning stays that project from the spherical member of the core structure, each positioning stay projecting “an amount substantially equal to a radial thickness of the spherical casing”. Contrary to the Office’s indication, this is not the case in Faulkner. First, Faulkner’s “spokes 26, 28, 30 and 32” do not project from a spherical member as claim 15 requires. Instead, the “spokes” project from a rod-shaped “hub 34”, which is plainly not spherical. The difference is more than one of form. Applicant’s claimed spherical member would perform markedly differently in an impact situation than would a rod-shaped “hub 34”.

Furthermore, the “spokes 26, 28, 30 and 32” in Faulkner do not project an amount substantially equal to a radial thickness of a spherical casing. For example, the spokes are not disposed through a spherical casing. Instead, the “complementary plastic structure” 11 merely fills the spaces in the “core structure 10” and cannot be said to be spherical. Furthermore, the spokes

terminate at the “rim-like portion 12” such that—even beyond all else—they could not be considered to project an amount equal to a thickness of a spherical casing as claim 15 requires and as centering a spherical member of a core structure pursuant to Applicant’s invention requires. The same argument applies to amended claim 57.

Claim 19 also adds patentable limitation to base claim 1 and intervening claim 18. Again bearing in mind that each claim must be read as a whole—including all limitations of each base claim and any intervening claims—it will be noted that amended claim 19 demands not only the mating surface deviations between the spherical member of the core but also mating surface deviations interposed between the inner surface of a spherical shell and an outer surface of the spherical casing. With this, the claimed invention has, inter alia, a spherical core member with outer surface deviations, a spherical casing with inner surface deviations and outer surface deviations, and a spherical shell with inner surface deviations. There is simply nothing in the prior art that can reasonably be said to teach or suggest such a claimed ball structure. The same arguments apply to amended claim 59.

Claims 25 and 40 also enjoy further patentability since they specify a lightweight spherical layer comprising an aerogel. While the Office notes that U.S. Patent No. 4,463,951 to Kumasaka discloses a layer of foam material, there is no teaching or suggestion of the use of an aerogel in Kumasaka or any other cited reference. As such, claims 25 and 40 are additionally allowable.

Claims 26 through 28 are additionally patentable in that they claim “a luminescent layer” and then that the layer comprises a sub-layer and an outer layer. As defined in The American Heritage[®] Dictionary of the English Language: Fourth Edition, luminescence is “The emission of light that

does not derive energy from the temperature of the emitting body, as in phosphorescence, fluorescence, and bioluminescence. Luminescence is caused by chemical, biochemical, or crystallographic changes, the motions of subatomic particles, or radiation-induced excitation of an atomic system.” The cited portions of Schrimmer do not disclose a luminescent layer. In relevant part, the portion of Schrimmer cited by the Office merely teaches an “electrical lighting device 12” comprising “light emitting diodes 14, 16 (LEDs)”. Col. 3, lines 59-65. Schrimmer’s light emitting diodes do not comprise a “layer” of any kind and, even more clearly, are not luminescent as the term is properly interpreted. This argument applies equally to claim 62.

Amended claim 32 enjoys additional patentability. It requires not only an elongate probe adapted to be received into an access conduit but also a means for passing power through the elongate probe “to provide power to the switching arrangement from exterior to the high impact game ball.” Schrimmer neither discloses nor suggests any corresponding structure. The “plunger 36” in Schrimmer merely operates to interrupt or allow the flow of electricity within the game ball. Nowhere does Schrimmer contemplate passing power through his “plunger 36” from exterior to the game ball such that a rejection of claim 32 based therein cannot properly be supported. This argument applies also to amended independent claim 33 and amended claim 56.

Even further, there is nothing in Faulkner that could in fairness be read to teach or render obvious the active cooling method set forth in claim 48. Faulkner merely describes injection molding and a “finishing operation” to ensure a truly spherical ball. Active cooling is never taught or suggested.

Conclusion

Because no cited reference identically discloses the invention as set forth in pending claims 1-35 and 37-62 and because there is no suggestion in the art to modify or combine any of the prior art references to approximate the invention as claimed, the Applicant most respectfully submits that the claims now presented are patentable over the cited art. With this in mind, the Office's reconsideration and allowance of the specification and claims are respectfully requested.

The Applicant believes that all issues raised in the Detailed Action have been responded to fully. However, if, after consideration of the above amendments and comments, there remain any open issues in this application that possibly can be resolved by a telephone interview, then the Applicant's undersigned attorney most respectfully requests that he be called to discuss and attempt to resolve those issues.

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Respectfully submitted,

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